AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1.   (Currently Amended)   A method for implementing multicast services, comprising:

presetting a <u>first</u> mapping relation between address information of multicast users and multicast authorities and a <u>second</u> mapping relation between multicast authorities and multicast group addresses in a network equipment,

wherein the <u>first</u> mapping relation between address information of multicast users and multicast authorities defines that at least one multicast user ~~each~~ corresponds to different multicast authorities and <u>that</u> at least one multicast authority corresponding each corresponds to many multicast users,

wherein the <u>second</u> mapping relation between multicast authorities and multicast group addresses defines that at least one multicast authority ~~each~~ corresponds to a plurality of multicast programs which can be accessed by at least one multicast user;

obtaining a request packet sent by a <u>given</u> multicast user who requests to join in a multicast group to use a multicast service;

determining address information of the <u>given</u> multicast user according to a Virtual Local Area Network identifier (VLAN ID) carried in the request packet and/or a frame number, slot number and port number of the network equipment to which the <u>given</u> multicast user is connected;

using the address information of the given multicast user to~~determining~~ determine whether the given multicast user corresponds to a multicast authority according to the first mapping relation ~~between address information of multicast users and multicast authorities as well as the address information of the multicast user~~;

determining whether a~~the~~ multicast group address carried in the request packet matches a multicast group address corresponding to the multicast authority of the given multicast user ~~among~~ according to the second mapping relation ~~between multicast authorities and multicast group addresses~~;

if the given multicast user corresponds to a multicast authority and the multicast group address carried in the request packet matches a multicast group address corresponding to the multicast authority of the given multicast user~~among the mapping relation between multicast authorities and multicast group addresses~~, permitting the given multicast user to use the requested multicast service, otherwise, prohibiting the given multicast user from using the request multicast service.

2.   (Canceled).

3.   (Currently amended) The method according to claim 1, ~~if~~wherein the step of determining that the multicast user does not correspond to any multicast authority, further ~~comprising~~comprises:

determining whether the multicast user is a super user, if yes, permitting the multicast user to join in the multicast group, otherwise prohibiting the multicast user from joining in the multicast group.

4-5.   (Canceled).

6.   (Previously Presented) The method according to claim 1, wherein, the address information of the multicast user is a frame number, a slot number and a port number of a layer-2 network equipment to which the multicast user is connected; or

a frame number, a slot number, a port number, a Virtual LAN identifier (VLAN ID), and an IP address of a layer-3 network equipment to which the multicast user is connected.

7.   (Previously Presented) The method according to claim 6, wherein, the layer-2 network equipment is a Digital Subscriber Line (DSL) broadband access equipment or a Local Area Network (LAN) switch;

the layer-3 network equipment is a router or a layer-3 switch.

8.   (Previously Presented) The method according to claim 1, wherein, the step of obtaining the request packet sent by the multicast user who requests to join in the multicast group comprises:

snooping the request packet by using an Internet Group Management Protocol (IGMP) technique.

9.   (Previously Presented) The method according to claim 1, wherein, the step of obtaining the request packet sent by the multicast user who requests to join in the multicast group comprises:

an IGMP Proxy terminating the request packet and requesting upper-layer network equipment for multicast recourses as a proxy of the multicast user.

10.   (Original) The method according to claim 1, wherein, the request packet is based on IGMP.

11.   (Currently Amended)   A method for implementing multicast services, comprising:

presetting mapping relations among multicast users, multicast authorities and multicast programs that each refers to a multicast group address in a network equipment,

wherein the step of presetting mapping relations comprises presetting a first mapping relation between multicast programs and multicast authorities, the first mapping relation defining that each multicast authority corresponds to at least one multicast program and a plurality of multicast programs are set in one multicast authority,

wherein the step of presetting mapping relations comprises presetting a second mapping relation between multicast authorities and multicast users, the second mapping relation defining that at least one multicast user each-corresponds to different multicast authorities and that at least one multicast authority each corresponds to many multicast users, wherein each multicast user [[is]]being identified according to address information of the each multicast user depending on location information of a connection between the each multicast user and the network equipment;

obtaining a request packet carrying a multicast group address from a given multicast user who requests to join in a multicast group to utilize a multicast service by way of an Internet Group Management Protocol (IGMP) Snooping technique or IGMP Proxy technique;

determining address information of the given multicast user according to the request packet, the address information of the given multicast user depending on location information of a connection between the given multicast user and the network equipment;

determining whether the given multicast user corresponds to a multicast authority according to the second mapping relation;

determining whether the multicast group address carried in the request packet matches a multicast group address corresponding to the determined multicast authority of the given multicast user according to the mapping relations;

if the multicast group address carried in the request packet matches a multicast group address corresponding to the determined multicast authority of the given multicast user, permitting the given multicast user to use the requested multicast service;

if the multicast group address carried in the request packet does not match a multicast group address corresponding to the determined multicast authority, prohibiting the given multicast user from using the requested multicast service.

12.   (Canceled)

13.   (Previously Presented) The method according to claim 11, wherein the step of determining address information of the multicast user comprises: determining the location information of the multicast user according to a frame number, slot number and port number of the network equipment.

14.   (Previously Presented) The method according to claim 13, wherein the network equipment is a layer-2 network equipment to which the multicast user is connected, and

the step of determining the location information of the multicast user according to a frame number, slot number and port number of the network equipment comprises: determining the address information of the multicast user according to a frame number, a slot number and a port number of a layer-2 network equipment to which the multicast user is connected.

15.   (Previously Presented) The method according to claim 13, wherein the network equipment is a layer-3 network equipment to which the multicast user is connected, and

the step of determining the location information of the multicast user according to a frame number, slot number and port number of the network equipment comprises:

determining the location information of the multicast user according to a frame number, a slot number, a port number, a Virtual LAN identifier (VLAN ID), and an IP address of a layer-3 network equipment to which the multicast user is connected.

16. (Currently Amended) The method according to claim [[12]]11, if determining that the multicast user does not correspond to any multicast authority, further comprising:

determining whether the multicast user is a super user, if yes, permitting the multicast user to join in the multicast group, otherwise prohibiting the multicast user from joining in the multicast group.

17. (Canceled)

18. (Canceled)

19. (Currently Amended) The network equipment according to claim [[17]]24, wherein the address information of the multicast user comprises a Virtual Local Area Network identifiers (VLAN ID) and/or a frame number, slot number and port number of the network equipment to which the multicast user is connected.

20. (Previously Presented) The network equipment according to claim 19, the network equipment is a Digital Subscriber Line (DSL) broadband access equipment or a Local Area Network (LAN) switch; or a router or a layer-3 switch.

21. (Previously Presented) The method according to claim 1, wherein the plurality of multicast programs are programs in a certain program category, the certain program category including at least one of news, drama, art, and literature.

22. (Previously Presented) The method according to claim 11, wherein the plurality of multicast programs are programs in a certain program category, the certain program category including at least one of news, drama, art, and literature.

23. (Currently Amended) The network equipment according to claim [[17]]24, wherein the plurality of multicast programs are programs in a certain program category, the certain program category including at least one of news, drama, art, and literature.

24. (New) A Digital Subscriber Line (DSL) broadband access equipment, which is capable of communicating with user equipments of multicast users, configured to:

preset mapping relations among multicast users, multicast authorities and multicast programs, wherein the multicast users are identified according to location information of connections between the multicast users and the network equipment, wherein the preset mapping relations comprise a first mapping relation between multicast programs and multicast authorities, the first mapping relation defining that each multicast authority corresponds to at least one multicast program that each refers to a multicast group address and a plurality of multicast programs are set in one multicast authority, wherein the preset mapping relations comprise a second mapping relation between multicast authorities and multicast users, the second mapping relation defining that at least one multicast user each corresponds to different multicast authorities and at least one multicast authority corresponds to many multicast users;

obtain a request packet from a user equipment of a given multicast user, the request packet carrying a multicast group address of a multicast group which the given

multicast user requests to join in to utilize a multicast service;

determine address information of the given multicast user according to the request packet, the address information of the given multicast user depending on location information of a connection between the given multicast user and the network equipment;

determine whether the given multicast user corresponds to at least one multicast authority and whether the multicast group address carried in the request packet matches a multicast group address corresponding to the at least one multicast authority of the given multicast user according to the preset mapping relations;

if it is determined that the given multicast authority corresponds to the at least one multicast authority and that the multicast group address carried in the request packet matches a multicast group address corresponding to the at least one multicast authority of the given multicast user, permit the given multicast user to use the requested multicast service;

if it is determined that the multicast group address carried in the request packet does not match a multicast group address corresponding to the at least one multicast authority of the given multicast user, prohibit the multicast user from using the requested multicast service.